

Calendar No. 387**105th Congress }
2d Session }****SENATE****{ REPORT
{ 105-195****NATIONAL AERONAUTICS AND SPACE ADMINISTRA-
TION AUTHORIZATION ACT, FISCAL YEAR 1998,
1999, and 2000**

R E P O R T

OF THE

**COMMITTEE ON COMMERCE, SCIENCE, AND
TRANSPORTATION**

on

S. 1250

MAY 22, 1998.—Ordered to be printed

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WASHINGTON : 1998

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED FIFTH CONGRESS

SECOND SESSION

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105TH CONGRESS }
2d Session }

SENATE

{ REPORT
105-195

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AUTHORIZATION ACT, FISCAL YEAR 1998, 1999, and 2000

MAY 22, 1998.—Ordered to be printed

Mr. MCCAIN, from the Committee on Commerce, Science, and
Transportation, submitted the following

REPORT

[To accompany S. 1250]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 1250), “A Bill To authorize appropriations to the National Aeronautics and Space Administration for fiscal years 1998 and 1999, and for other purposes”, having considered the same, reports favorably thereon with an amendment in the nature of a substitute, and an amendment to the title, and recommends that the bill as amended do pass.

PURPOSE OF THE BILL

The purpose of the bill as reported is to authorize appropriations for the National Aeronautics and Space Administration (NASA) totaling \$13,638,000,000 for fiscal year (FY) 1998, \$13,465,000,000 for FY 1999, and \$13,702,600,000 for FY 2000 as follows:

Fiscal Year 1998	Committee Authorization
Human Space Flight	\$5,506,500,000
Science, Aeronautics, and Technology	\$5,680,000,000
Mission Support	\$2,433,200,000
Inspector General	\$18,300,000

Fiscal Year 1999	Committee Authorization
Human Space Flight	\$5,511,000,000
Science, Aeronautics, and Technology	\$5,457,400,000
Mission Support	\$2,476,600,000
Inspector General	\$20,000,000

Fiscal Year 2000	Committee Authorization
Human Space Flight	\$5,472,200,000
Science, Aeronautics, and Technology	\$5,794,800,000
Mission Support	\$2,415,600,000
Inspector General	\$20,000,000

BACKGROUND AND NEEDS

In the past, the main challenges NASA faced were technological. Today, NASA faces a new set of challenges which are budgetary as well as technical, but no less daunting than the Apollo missions to the Moon.

Over the last three years NASA has conducted a comprehensive review of its entire operation to identify potential areas for cost savings, begun new technology programs to reduce the cost of access to space and of space science and exploration missions, and committed the agency to reducing its workforce from 25,000 full time equivalents (FTE) to fewer than 18,000 by the year 2000. There is broad appreciation for the difficulty in making these budget cuts while at the same time fulfilling its commitment to major multi-billion-dollar initiatives like the International Space Station and Mission to Planet Earth (MTPE).

To successfully meet these new budget and program challenges, NASA cannot settle for marginal changes, but must reassess its traditional ways of doing business. In carrying out its goals and missions, NASA will need, when feasible and practical, to increase its use of cost-sharing partnerships with industry, academia, and non-federal entities, and with other space-faring nations when those partnerships are cost-effective and provide enhancement. The agency should also explore in greater depth the possibilities of privatizing those activities that can be more cost-effectively performed by the private sector and strengthen its commitment to purchasing goods and services on a commercial basis when economically feasible to the taxpayer. NASA should further explore all possibilities of using small business as a means of reducing costs and improving efficiencies.

Equally important in justifying its budget, NASA must make special efforts to ensure that its missions and programs are relevant to both the individuals and interests directly involved, as well as the general public. For instance, the global climate change research conducted through the MTPE program, if managed prop-

erly, has the potential to provide amounts of information that would be beneficial to the public in such diverse areas as agriculture, forestry, mineral exploration, water resource management, and land-use planning. Accordingly, as NASA continues to develop the MTPE program, it should actively seek input from the diverse pool of potential end users of this data. Similarly, NASA's space education and outreach activities like the Experimental Program to Stimulate Competitive Research, the Teacher Resource Centers, and the Space Grant Program have proven very effective in giving citizens of all ages and backgrounds, as well as a broad range of government, private sector, and academic institutions, a stake in the U.S. space program and our ongoing technological revolution. NASA should continue to maintain these important education and outreach activities.

As NASA addresses these and other budgetary and programmatic challenges, it is important that safety continue to be a top priority. Technological risk is an unavoidable necessity as we move our space program forward. Safety should continue to be a top priority out of concern for the lives of the people who make the U.S. space program a success. Risk assessment and management will take on increasing importance in the upcoming decade when assembly of the International Space Station will require astronauts to perform an unprecedented amount of spacewalking to build, maintain, and operate it and will force the Space Shuttle Program to satisfy unusually high launch demands.

Even within current federal budget constraints, NASA requires a certain minimal level of funding to plan and carry out the bold space activities that have historically defined the agency. Funding must be sufficient to support core ongoing programs, as well as new initiatives to address future aerospace needs. This authorization legislation for FY 1998, FY 1999, and FY 2000 is intended to provide the agency with the funding and policy guidance to maintain a robust and balanced space program in this environment. Adequate funding along with sound fiscal management by NASA are critical components to the future success of the agency.

LEGISLATIVE HISTORY

On February 11, 1997, the Administration submitted its FY 1998 budget request for NASA to the Congress. During the 105th Congress, the Subcommittee on Science, Technology, and Space held three oversight hearings, chaired by Senator Frist, on NASA's programs. On April 24, 1997, the Subcommittee held a hearing on the FY 1998 budget and programs of NASA, at which time testimony was heard from NASA Administrator Daniel S. Goldin; Marcia Smith, Specialist in Aerospace and Telecommunications Policy, Congressional Research Service; Dr. Kenneth F. Galloway, Dean, School of Engineering, Vanderbilt University; and Jerry Gray, Director of Aerospace, American Institute of Aeronautics and Astronautics. On June 18, 1997, a second hearing was held which focused specifically on the International Space Station. At that hearing, the Subcommittee heard testimony from Mr. Daniel S. Goldin, Administrator, National Aeronautics and Space Administration; Mr. Thomas J. Schulz, Associate Director, National Security and International Affairs, U.S. General Accounting Office; Ms. Marcia

Smith, Specialist in Aerospace and Telecommunications Policy, Congressional Research Service, Library of Congress; and Dr. Lawrence J. DeLucas, Director, Center for Macromolecular Crystallography, University of Alabama at Birmingham. Lastly, on September 18, 1997, as part of its continuing oversight responsibility and the evolving needs of the International Space Station, the Subcommittee heard testimony from NASA Administrator Daniel S. Goldin; Mr. Allen Li, Associate Director, National Security and International Affairs, U.S. General Accounting Office; and Mr. Douglas C. Stone, Vice President and Program Manager, International Space Station, Boeing Defense and Space Group, Houston, Texas.

On October 3, 1997, Senator Frist, along with Senators Rockefeller, Burns, and Stevens introduced S.1250, a bill to authorize appropriations for NASA for FY 1998 and FY 1999. On February 2, 1998, the Administration submitted its FY 1999 budget request for NASA to the Congress. On March 12, 1998, the Committee met in executive session and, on a voice vote, ordered the bill, as amended, reported.

SUMMARY OF MAJOR PROVISIONS

For FY 1998, the bill, as reported, authorizes a total of \$13,638,000,000 for NASA.

For FY 1999, the bill, as reported, authorizes a total of \$13,465,000,000 for NASA.

For FY 2000, the bill, as reported, authorizes a total of \$13,702,600,000 for NASA.

For FY 1998, the \$13,638,000,000 authorized for NASA is allocated among its major accounts as follows: \$5,506,500,000 for Human Space Flight; \$5,680,000,000 for Science, Aeronautics, and Technology; \$2,433,200,000 for Mission Support; and \$18,300,000 for the Office of the Inspector General (OIG).

For FY 1999, the \$13,465,000,000 authorized for NASA is allocated among its major accounts as follows: \$5,511,000,000 for Human Space Flight; \$5,457,400,000 for Science, Aeronautics, and Technology; \$2,476,600,000 for Mission Support; and \$20,000,000 for the OIG. In providing authorized levels for FY 1999, the Committee provided for the Administration's request for each account.

For FY 2000, the \$13,702,600,000 authorized for NASA is allocated among its major accounts as follows: \$5,472,200,000 for Human Space Flight; \$5,794,800,000 for Science, Aeronautics, and Technology; \$2,415,600,000 for Mission Support; and \$20,000,000 for the OIG.

International Space Station

The reported bill authorizes \$2,328,300,000 for FY 1998, \$2,270,000,000 for FY 1999, and \$2,134,000,000 for FY 2000 for the International Space Station; an additional \$50,000,000 is provided for FY 1998 for Russian Program Assurance to allow completion of the initial step in the construction of the Interim Control Module. Funding for the International Space Station is \$207,000,000 more than the FY 1998 budget request, reflecting \$100,000,000 in new obligational authority provided for FY 1998 appropriations (P.L. 105-65). In addition, \$5,000,000 in funds were reprogrammed from

the Space Shuttle Operations Program, \$22,000,000 in funds reprogrammed from Payload and Utilization Operations (identified in the FY 1999 budget request), and \$80,000,000 was provided through an appropriations transfer from the Mission Support account in the FY 1998 appropriation (P.L. 105-65). The \$50,000,000 for Russian Program Assurance was made available through a reprogramming of \$50,000,000 from the Space Shuttle Operations Program. This authorization level is partially responsive to NASA's request for an additional \$430,000,000 above the FY 1998 budget request for the International Space Station to correct overruns, to purchase spares, and to enable software engineering and integration. This additional funding also permits NASA to sustain its current revised schedule with construction completed in 2003, assuming pending resolution of the first element launch. The bill also completes funding for nine Shuttle missions to the Russian space station Mir between 1995 and 1998. The Shuttle-Mir missions are helping NASA and its international partners prepare for the construction of the International Space Station.

Funding levels for the International Space Station for FY 1999 and FY 2000 are provided at levels equal to the Administration's stated requirements.

The authority to transfer \$173,000,000 in transfer authority from other accounts, requested in NASA's FY 1999 budget, is not included in the bill. The Committee is reserving its judgment on the need for the additional funding pending satisfactory resolution.

Space Shuttle

The reported bill would authorize \$2,922,800,000 for the Space Shuttle Program for FY 1998 which includes the Space Shuttle Safety and Performance upgrades, \$3,059,000,000 is authorized for FY 1999, and \$3,150,700,000 is authorized for FY 2000. This level would enable NASA to undertake Shuttle missions during FY 1998, FY 1999, and FY 2000. At NASA's request \$50,000,000 for FY 1998 funding is redirected from Shuttle Operations to Russian Program Assurance and an additional \$5,000,000 is redirected from the Space Shuttle Program to the International Space Station. The authorization would also support NASA's programs to improve and upgrade the Shuttle orbiters performance and safety. The funding level authorized by the bill assumes cost savings made possible by the implementation of measures recommended by the 1995 comprehensive review of the Shuttle program, which assumed increases in efficiency, and the transition to a consolidation of Shuttle operations contracts under one prime contractor.

Payload and Utilization Operations

The reported bill would authorize the FY 1998 requested level of \$205,400,000 for Payload and Utilization Operations, \$182,000,000 is authorized for FY 1999, and \$187,500,000 for FY 2000. This account supports the processing and flight of Shuttle payloads, efforts to reduce operations costs, and the implementation of flight and ground systems improvements.

Space Science

The reported bill would authorize \$2,033,800,000 for FY 1998, \$2,058,400,000 is authorized for FY 1999, and \$2,207,400,000 for FY 2000. The funding level will permit a continuation of NASA's ongoing space science activities in physics, astronomy, and planetary exploration, including the Advanced X-ray Facility (AXAF), Thermosphere, Ionosphere, Mesosphere, Energetics and Dynamics (TIMED), the Relativity Mission, the Gravity Probe-B (GPB) program, the Explorer program, the Cassini mission to Saturn, the Discovery program, the Mars Surveyor mission, the Stratospheric Observatory for Infrared Astronomy (SOFIA), and the Space Infrared Telescope Facility (SIRTF). The bill would also support the budget request for the New Millennium program, an important initiative to develop technologies that will enable more frequent and less costly space missions on smaller spacecraft.

Life and Microgravity Sciences and Applications

The reported bill would authorize \$214,200,000 for FY 1998, \$242,000,000 for FY 1999, and \$257,000,000 for FY 2000 for the life and microgravity sciences and applications program. The purpose of this program is to use the space environment to better understand the response of biological and materials systems to weightlessness. The authorized levels will support continuation of NASA's ongoing research in the space biological, physical, and chemical sciences, and related work in technology development and applications.

Mission To Planet Earth (Earth Science Enterprise)

The reported bill would authorize \$1,417,300,000 for FY 1998, \$1,372,000,000 for FY 1999, and \$1,492,000,000 for FY 2000 to fully fund the MTPE Program, NASA's effort to employ the latest satellite technology to understand and predict the global climate trends, and humanity's impact on the environment, that affect our daily lives. Mission To Planet Earth is NASA's contribution to the multi-agency U.S. Global Change Research Program. The authorized amount assumes full funding for each of the program's main components including: the Earth Observing System (and Landsat), the Earth Observing System Data and Information System, Earth Probes, and research and data analysis.

Aeronautics and Space Transportation Technology

The reported bill authorizes \$1,483,900,000 for FY 1998, \$1,305,000,000 for FY 1999, and \$1,344,000,000 for FY 2000. This account provides for funding for three programs: (1) Aeronautical Research and Technology; (2) Advanced Space Transportation Technology; and (3) Commercial Technology.

For the Aeronautical Research and Technology program, the reported bill would authorize the requested level of \$920,100,000 for FY 1998, and \$786,000,000 for FY 1999 as requested. No specific funding level is being stipulated for FY 2000, thus providing NASA with the necessary flexibility to ascertain the appropriate level. This program is dedicated to ensuring U.S. leadership in aeronautics and promoting and facilitating the transfer of aeronautics technology to industry and government agencies such as the De-

partment of Defense and the Federal Aviation Administration in order to promote better civilian and military aircraft and a safer national air space system. The authorized level will support continuation of the baseline program, including its subsonic, high-speed, and hypersonic research activities. The Aviation Safety Program is authorized at a level of \$100,000,000 per year through FY 2000.

For the Advanced Space Transportation Technology program, the reported bill would authorize \$417,100,000 for FY 1998, and \$388,600,000 for FY 1999. No specific funding level is stipulated for FY 2000, in order to provide NASA with flexibility to ascertain the appropriate level. NASA's Advanced Space Transportation Technology program is intended to stimulate the development of advanced space technologies to improve U.S. industrial competitiveness. Included within the authorization is the Reusable Launch Vehicle (RLV) program. The RLV program is aimed at developing and flight testing the fully reusable technologies that may lead to the eventual development of a replacement for the Space Shuttle. Incorporated within the RLV effort are two separate but related experimental flight demonstrator programs: the X-34 Small Reusable Launch Vehicle and the X-33 Advanced Technology Demonstrator. It is anticipated that these activities will develop the key component technologies needed to make dramatic reductions in the cost of access to space.

For the Commercial Technology program, the reported bill would authorize \$146,700,000 for FY 1998 and \$130,400,000 for FY 1999. No specific funding level is stipulated for FY 2000, in order to provide NASA with flexibility to ascertain the appropriate level. NASA's Commercial Technology Program is to share the technology program results with the United States industrial community. The technology commercialization program is intended to assure that NASA's technology developments contribute to a significant improvement in the quality of American life and an increase in America's international competitiveness.

Mission Communications Services

The reported bill would authorize Mission Communications Services at the President's FY 1998 budget request level of \$400,800,000. This authorized level will provide sufficient support for NASA's vast ground and space-based communications systems, which are essential to every NASA space mission. Also, as requested in the President's budget submitted earlier this year, \$380,000,000 is authorized for FY 1999, and \$391,400,000 is authorized for FY 2000, which provides a modest increase for this activity.

Academic Programs

The reported bill would authorize NASA's Academic Programs at \$130,000,000 for FY 1998 reflecting FY 1998 appropriations activity, \$100,000,000 for FY 1999, as requested, and \$103,000,000 for FY 2000. For FY 1998, the authorized amount is \$33,600,000 above the President's request (as provided in P.L. 105-65), providing for enhanced education programs, at the K-12 level, at Historically Black Colleges and Universities and other minority-serving institu-

tions, and through the Experimental Program to Stimulate Competitive Research (EPSCoR). NASA's Academic Programs have played an important role in sustaining U.S. academic achievement in mathematics and science and strengthening mathematics and science education at all levels, from pre-college through graduate school. Within the total authorization, \$10,000,000 is allocated for EPSCoR in each fiscal year, which would be a substantial increase over the FY 1998 and FY 1999 budget request of \$4,600,000. NASA's EPSCoR is a critical source of funds for important academic space science research being conducted in our rural states.

Safety, Reliability, and Quality Assurance

The reported bill would authorize the Safety, Reliability, and Quality Assurance programs at the FY 1998 budget request of \$37,800,000 and at the President's FY 1999 budget request level of \$35,600,000 for both FY 1999 and 2000. This program is designed to develop and implement risk management practices throughout NASA.

Space Communications Systems

The reported bill would authorize \$209,200,000 for FY 1998 for NASA's Space Communications Systems, \$177,000,000 for FY 1999, and \$136,000,000 for FY 2000. The FY 1998 level is \$36,500,000 below the requested level, reducing the Space Network activity, reflecting reallocation of \$25,000,000 to the International Space Station (P.L. 105-65) and \$11,500,000 to Research Operations Support for additional implementation requirements for the agency-wide Integrated Financial Management Program. This account supports the tracking, telemetry, data acquisition, and data processing activities for all NASA spacecraft. Included among these activities is the Tracking and Data Relay Satellite (TDRS) program, which provides operational support for NASA and other domestic and international users of NASA's Space Network for space communications purposes. The funding level also supports the TDRS replenishment program to develop a new series of tracking satellites, the first of which is scheduled for launch in 1999.

Research and Program Management

The reported bill would authorize \$2,051,800,000 for FY 1998, \$18,500,000 below the 1998 budget request for the Research and Program Management account at NASA. The authorized level is a reduction to reflect a reallocation of funds to the International Space Station (P.L. 105-65). This account funds the salaries, travel expenses, and other administrative expenses for NASA's personnel. \$2,099,000,000 in funding is authorized for FY 1999 and \$2,079,000,000 for FY 2000.

Construction of Facilities

The reported bill would authorize \$134,400,000 for FY 1998, for the Construction of Facilities activity to fund the repair and upgrade of existing facilities and the construction of new facilities. This is \$15,000,000 less than the FY 1998 budget request, reflecting a reallocation to the International Space Station (P.L. 105-65).

A total of \$165,000,000 is authorized for FY 1999, as requested, and \$165,000,000 is authorized for FY 2000.

Inspector General

The reported bill would authorize the OIG at \$18,300,000 for FY 1998, \$20,000,000 for FY 1999, and \$20,000,000 for FY 2000. The OIG is a statutorily-created independent organization within NASA charged with investigating cases of fraud, waste, and abuse at the agency.

ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, April 3, 1998.

Hon. JOHN MCCAIN,
*Chairman, Committee on Commerce, Science, and Transportation,
U.S. Senate, Washington, DC.*

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 1250, the National Aeronautics and Space Administration Authorization Act for Fiscal Years 1998, 1999, and 2000.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contacts are Kathleen Gramp (for federal costs), Pepper Santalucia (for the state and local impact), and Lesley Frymlier (for the private-sector impact).

Sincerely,

JUNE E. O'NEILL.

Enclosure.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

S. 1250—National Aeronautics and Space Administration Authorization Act for Fiscal Years 1998, 1999, and 2000

S. 1250 would authorize annual funding for the National Aeronautics and Space Administration (NASA) for fiscal years 1998 through 2000. It also would expand the agency's authority to indemnify certain NASA contractors against some potential liability claims, and would revise various policies governing space programs. Assuming the appropriation of the specified amounts for 1999 and 2000, CBO estimates that implementing this bill would result in additional discretionary spending of \$27.2 billion over the 1999–2003 period. (Funding for 1998 has already been appropriated at the level specified in S. 1250.)

Enacting the bill could affect both direct spending and receipts; therefore, pay-as-you-go procedures would apply. CBO estimates, however, that any such effects would not be significant.

S. 1250 contains no intergovernmental mandates as defined in the Unfunded Mandates Reform Act of 1995 (UMRA) and would impose no costs on state, local, or tribal governments. The bill

would impose new private-sector mandates, but CBO estimates that the cost of these mandates would not exceed the statutory threshold established by UMR.

Description of the bill's major provisions: S. 1250 includes both spending and regulatory measures. The amounts authorized to be appropriated would be subject to certain limitations, including a cap on cumulative funding for the space station. In addition, S. 1250 would direct NASA to submit a plan to privatize the space shuttle and to issue reports and guidelines related to the space station, the use of surplus property, and data disclosure. NASA would be required to acquire data on space and earth sciences from commercial vendors when cost-effective and to follow certain procurement practices.

S. 1250 also would authorize NASA to indemnify or insure developers of experimental reusable launch vehicles under certain conditions. To be eligible for indemnification, developers would be required to meet safety standards, provide primary insurance, and agree to cross-waivers of liability with the federal government. Federal payments, which would be limited to \$1.5 billion per incident, would be made under terms and procedures similar to those in existing law for indemnifying users of the space shuttle and commercial space vehicles licensed by the Department of Transportation (DOT). Under those guidelines, NASA could pay claims using previously appropriated but unobligated funds or could seek additional appropriations under expedited Congressional review procedures. This indemnification authority would expire on December 31, 2002, but could be extended through September 30, 2005, if needed for the operation of an experimental vehicle.

Finally, S. 1250 would prohibit the launch of any payload with obtrusive space advertising by existing and prospective licensees of commercial space transportation systems. The bill also would encourage the President to negotiate agreements with foreign countries to ban such advertising worldwide.

Estimated cost to the Federal Government: CBO estimates that implementing S. 1250 would increase discretionary spending by a total of \$27.2 billion over the 1999–2003 period, assuming the appropriation of the authorized amounts. Allowing NASA to indemnify experimental reusable launch systems could affect direct spending, but CBO estimates that any such payments would not be significant over the next five years. Provisions barring the licensing of space payloads with obtrusive advertising could affect receipts, but we estimate that the effects would not be significant.

The estimated budgetary impact of S. 1250 is shown in the following table. The costs of this legislation fall primarily within budget function 250 (general science, space, and technology).

[By fiscal year, in millions of dollars]

	1998	1999	2000	2001	2002	2003
SPENDING SUBJECT TO APPROPRIATION						
NASA Spending Under Current Law:						
Budget Authority ¹	13,638	0	0	0	0	0
Estimated Outlays	14,323	5,282	497	162	0	0
Proposed Changes:						
Authorization Level	0	13,464	13,703	0	0	0
Estimated Outlays	0	8,366	13,096	5,082	460	164

(By fiscal year, in millions of dollars)

	1998	1999	2000	2001	2002	2003
NASA Spending Under S. 1250:						
Authorization Level ¹	13,638	13,465	13,703	0	0	0
Estimated Outlays	14,323	13,648	13,593	5,244	460	164

¹The 1998 level is the amount appropriated for that year, the amount authorized by the bill for 1998 is the same as the amount appropriated.

Basis of Estimate: Spending Subject to Appropriation. For the purposes of this estimate, CBO assumes that appropriations will be provided near the beginning of each fiscal year and that outlays will follow historical patterns for such activities.

Allowing NASA to insure or indemnify developers of experimental reusable launch vehicles could result in additional discretionary spending over the next five years, but CBO expects the increase would not be significant. For the purposes of this estimate, we assume that NASA would opt to indemnify the developers rather than purchase insurance. According to agency officials, neither DOT nor NASA has ever paid claims to third parties for incidents involving commercial space transportation systems or users of the space shuttle. Thus far, the costs associated with incidents have been small and have been covered by private insurance. Although these reusable launch vehicles are experimental, NASA asserts that the probability of an incident—and the likelihood of federal payments—would be similar to that of existing launch vehicles. Hence, CBO estimates that these provisions would have a negligible effect on discretionary spending.

Other provisions in the bill would not have a significant effect on discretionary spending.

Direct Spending. S. 1250 would authorize the Administrator of NASA to indemnify claims up to \$1.5 billion regardless of whether amounts are available from appropriations to pay such claims. (This contrasts with DOT's indemnification authority, which is explicitly limited to amounts provided in appropriation acts.)

Giving NASA the authority to indemnify developers of experimental reusable launch vehicles could result in direct spending, but we estimate that any such spending would not be significant. Assuming that the risk of claims would be similar to that of existing launch vehicles and that private insurance and appropriated funds would be tapped first, the likelihood of direct spending for indemnification payments would be small. If NASA were obligated to pay claims in excess of the amounts available from private insurance and appropriations, CBO assumes that any additional payments would be made from the Claims and Judgments Fund, which is direct spending.

Receipts. Violations of the prohibition on obtrusive space advertising could result in the collection of civil penalties, but CBO estimates that any additional receipts would not be significant. The Department of Transportation has never collected a penalty for a violation of the licensing and related requirements of the commercial space transportation program.

Pay-as-you-go considerations: Section 252 of the Balanced Budget and Emergency Deficit Control Act of 1985 sets up pay-as-you-go procedures for legislation affecting direct spending and receipts. Provisions in the bill authorizing NASA to indemnify developers of

certain experimental vehicles could result in direct spending, but CBO estimates that no significant costs would result. Prohibiting obtrusive space advertising could result in the collection of additional civil penalties, but we estimate that the effect on receipts would be negligible.

Estimated impact on State, local, and tribal governments: S. 1250 contains no intergovernmental mandates as defined in UMRA, and would not impose any costs on state, local, or tribal governments. Currently, about \$830 million of NASA's research and development budget goes to academic institutions, including public universities. With the reauthorization of NASA's programs, this funding would continue.

Estimated impact of the private sector: S. 1250 would create a new private-sector mandate by prohibiting holders of licenses for commercial space launches from launching a payload containing material to be used for obtrusive space advertising. Obtrusive space advertising would be defined as advertising in outer space that is capable of being recognized by a human being on the surface of the Earth without the aid of a telescope or other technological device. Based on information provided by the Department of Transportation, CBO estimates that this new private-sector mandate would impose no direct costs on license holders.

Previous CBO estimate: ON April 21, 1997, CBO transmitted a cost estimate for H.R. 1275, the Civilian Space Authorization Act, Fiscal Years 1998 and 1999, as ordered reported by the House Committee on Science on April 16, 1997. Differences between the estimates are attributable to differences in the two bills. For example, the House bill would authorize funding for multiple agencies but for a shorter period of time. While the House bill would expand the Department of Transportation's authority to include reentry vehicles, sites, and services, it would not authorize NASA to insure or indemnify experimental reusable launch vehicles.

Estimate prepared by: Federal costs: Kathleen Gramp. Impact on State, local, and tribal governments: Pepper Santalucia. Impact on the private sector: Lesley Frymier.

Estimate approved by: Robert A. Sunshine, Deputy Assistant Director for Budget Analysis.

REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported:

NUMBER OF PERSONS COVERED

S. 1250, as reported, reauthorizes the programs and activities of the National Aeronautics and Space Administration for fiscal years 1998, 1999, and 2000. It is the Committee's judgment that the bill will not subject any individuals or businesses affected by the bill to additional regulation with the exception of section 317 and will not increase the paperwork requirement for such individuals or businesses. Section 317 provides new safety and insurance requirements for the test flights of the X-33 and X-34 programs.

ECONOMIC IMPACT

This legislation provides sufficient authorization levels to sustain ongoing and new awards, cooperative agreements, and contracts in the space community. Section 317 allows the X-33 and X-34 test vehicle to fly, potentially enhancing the commercial re-entry business.

PRIVACY

This legislation will not have an adverse impact on the personal privacy of individuals.

PAPERWORK

This legislation will not increase the paperwork requirement for individuals or businesses. The NASA Administrator is, however, required to submit the following reports to the Congress: 1) a study on the opportunities for commercial providers to play a role in the International Space Station; 2) an independently-conducted market survey to evaluate and examine potential industry interest in providing commercial goods and services; 3) a detailed contingency plan for the removal or replacement of each element of the International Space Station for which Russia is responsible that lies within the critical path of the International Space Station; 4) a feasibility study of the major recommendation of its own independent review team (the Kraft Commission) that the Space Shuttle program should be privatized; and 5) a report addressing the impact on NASA and its partners of changes implemented through amendments to the NASA mid-range procurement test program.

A study by the National Research Council of the National Academy of Sciences is requested that evaluates the engineering challenges posed by both extravehicular and space operation requirements of the United States and other foreign countries, the potential launch needs to upgrade or replace equipment or components, and the decommissioning and disassembly requirements of the International Space Station.

SECTION-BY-SECTION ANALYSIS

Section 1. Short Title; Table of Contents.

This section cites the bill as the “National Aeronautics and Space Administration Act for Fiscal Years 1998, 1999, and 2000.” The section also provides a table of contents to assist finding key sections of the bill.

Section 2. Findings.

This section sets forth Congressional findings regarding NASA and US space policy. The findings focus on such areas as: (1) the importance of continued reforms at NASA; (2) NASA’s continual leadership in aeronautics and space research; (3) the potential impact of new technologies and future US space missions; (4) the federal government’s efforts to invest in areas in which there are no commercial providers; (5) the benefits of international cooperation; and (6) the benefits of joint cooperative activities with other agencies.

Section 3. Definitions.

This section defines the terms “Administrator,” “commercial provider,” “critical path,” “grant agreement,” “institution of higher education,” “major reorganization,” and “State” for the purposes of the bill.

TITLE I—AUTHORIZATION OF APPROPRIATIONS

SUBTITLE A—AUTHORIZATIONS

Section 101. Human Space Flight.

This section authorizes a total of \$5,506,500,000 for FY 1998, \$5,511,000,000 for FY 1999, and \$5,472,200,000 for FY 2000 for the Human Space Flight account. Specifically in subsection (a) there would be authorized to be appropriated for the International Space Station, \$2,328,300,000 for FY 1998, \$2,270,000,000 for FY 1999 and \$2,134,000,000 for FY 2000. Also in this subsection, there would be authorized to be appropriated for the Russian Program Assurance, \$50,000,000 for FY 1998. No funds are authorized for this program for FY 1999 or FY 2000. There would be authorized to be appropriated for the Space Shuttle, \$2,922,800,000 for FY 1998, \$3,059,000,000 for FY 1999, and \$3,150,700,000 for FY 2000. Finally in subsection (a), there would be authorized to be appropriated for Payload and Utilization Operations, \$205,400,000 for FY 1998, \$182,000,000 for FY 1999, and \$187,500,000 for FY 2000. Subsection (b) of this section would authorize only \$1.5 billion of the \$2.328 billion to be made available for the International Space Station prior to March 31, 1998.

The total level of funding authorized for the International Space Station for FY 1998 is \$207,000,000 above the President’s request, and also includes an additional \$50,000,000 above the President’s request for Russian Program Assurance, for completion of step one of the Interim Control Module. These funding levels reflect FY 1998 appropriations (P.L. 105-65). This level of authorization is consistent with NASA’s request at the hearing on the International Space Station, on September 18, 1997. The additional funding for FY 1998 reflects the Committee’s recognition of the program’s importance to the future of the Nation’s human space flight program as well as the potential of the program to generate breakthrough scientific and technological discoveries.

The Committee notes, however, two developments this year that require careful oversight: (1) cost, schedule, and safety issues relating to Russia’s participation in the program; and (2) the accuracy and dependability of total costs and schedule, as a result of the additional cost overruns that NASA and the prime contractor recently revealed.

With the first element launch of the International Space Station scheduled for June 1998, the Committee remains optimistic about the program. The Committee will closely monitor the progress of the International Space Station including revised costs and schedules as they emerge over the next several months to ensure that it does not jeopardize NASA’s other missions and programs. The Committee expects to be notified immediately about cost revisions and schedule slippages.

Space Shuttle

At NASA's request, the level of funding authorized for the Space Station is \$55,000,000 below the FY 1998 budget request because of a reallocation of funds to the International Space Station. This funding level should enable NASA to maintain Shuttle performance without compromising safety. Over the next several years, America will rely on the Shuttle as never before because of construction of the International Space Station. Between 1998 and the year 2003, the Shuttle is scheduled to fly many missions to deliver parts and supplies to the International Space Station. At the same time, the Shuttle program is facing intense pressure from Congress and the Administration to cut costs. While the Committee supports efforts to cut costs, safety must always be a top priority. As NASA reduces personnel to reduce costs, it must guard against taking any short-cuts that would place our astronaut crews at risk.

Section 102. Science, Aeronautics, and Technology.

This section would authorize a total of \$5,680,000,000 for FY 1998, \$5,457,400,000 for FY 1999, and \$5,794,800,000 for FY 2000 for Science, Aeronautics, and Technology. The programs funded in this section include: (1) Space Science; (2) Life and Microgravity Sciences and Applications; (3) Mission to Planet Earth; (4) Aeronautical Research and Technology; (5) Advanced Space Transportation Technology; (6) Mission Communications Services; and (7) Academic Programs.

There would be authorized to be appropriated for Space Science, \$2,033,800,000 for FY 1998, \$2,058,400,000 for FY 1999, and \$2,207,400,000 for FY 2000. The level of funding authorized in the section assumes support for the New Millennium spacecraft program. This program is intended to reduce the size and development times of scientific spacecrafts, while increasing their capabilities.

There would be authorized to be appropriated for Life and Microgravity Sciences and Applications, \$214,200,000 for FY 1998, \$242,000,000 for FY 1999, and \$257,000,000 for FY 2000. For each of the fiscal years 1998, 1999, and 2000, \$2 million has been authorized to be appropriated for research and an early detection system for breast and ovarian cancer and other women's health related issues.

For Mission to Planet Earth, there would be authorized to be appropriated \$1,417,300,000 for FY 1998, \$1,372,000,000 for FY 1999, and \$1,492,000,000 for FY 2000. The Committee strongly supports this activity. Mission to Planet Earth is a satellite program aimed at understanding and predicting global climate change by studying how the atmosphere, land, seas, and ice caps interact as a system. It is NASA's main contribution to the U.S. Global Change Research Program and international climate change research programs. The bill assumes continued support for each of the program's components, including the Earth Observing System (EOS), the EOS Data and Information System (EOSDIS), Landsat, and Earth Probes.

For Aeronautical Research and Technology, there would be authorized to be appropriated \$920,100,000 for FY 1998, \$786,000,000 for FY 1999, and no amount has been specified for FY 2000. The authorization level provides full funding for all of the main aero-

nautics programs, including NASA's subsonic, supersonic, and hypersonic research programs. In addition, \$100,000,000 is authorized for FY 1998, FY 1999 and FY 2000 to provide for NASA's commitment announced in January 1997 to an Aviation Safety Program, a cooperative program with the Department of Defense, the Federal Aviation Administration and private industry.

For Advanced Space Transportation Technology, there would be authorized to be appropriated \$417,100,000 for FY 1998 and \$388,600,000 for FY 1999, but no amount has been specified for FY 2000.

For Mission Communications Services, there would be authorized to be appropriated \$400,800,000 for FY 1998, \$380,000,000 for FY 1999, and \$391,400,000 for FY 2000.

Finally, for Academic Programs, there would be authorized to be appropriated \$130,000,000 for FY 1998, \$100,000,000 for FY 1999, and \$103,000,000 for FY 2000. The level of funding authorized for FY 1998 is \$33,600,000 above the President's budget request, thus restoring this program to previous historic levels. The Committee provides the additional funding to address the following areas: (1) concern for enhanced support to the nation's K-12 educational system; (2) recognition of the contributions of Historically Black Colleges and Universities and other minority-serving institutions (such as Hispanic-serving institutions and Tribally-controlled Community Colleges) to the preparation of scientists and engineers for this country; and (3) support for the Experimental Program to Stimulate Competitive Research (EPSCoR). This Academic Programs authorization includes the \$10,000,000 that section 116 mandates for the existing EPSCoR program which funds space research in rural states. The Committee commends NASA's EPSCoR on its vital funding support for quality space science research at rural academic institutions and encourages the agency to form cooperative relationships between EPSCoR and NASA's space science programs to further enhance the competitiveness of those institutions.

The Committee, disappointed about the reduction in education programs reflected in both the FY 1998 and FY 1999 budget requests, directs NASA to use any additional funds to enhance K-12 education efforts, especially in: (1) student support programs such as the Summer High School Apprenticeship Research Program (SHARP and SHARP-PLUS), and the Space Science Student Involvement Program (SSIP); (2) teacher preparation and enhancement activities such as the in-service programs offered by the NASA Education Workshops for Elementary School Teachers (NEWEST), NASA Education Workshops for Math, Science and Technology Teachers (NEWMAST), and the Urban Community Enrichment Program (UCEP); and (3) educational technology, particularly related to distance learning that can serve rural communities.

Section 103. Mission Support.

This section would authorize a total of \$2,433,200,000 for FY 1998, \$2,476,600,000 for FY 1999, and \$2,415,600,000 for FY 2000 for Mission Support. Specifically in this section, there would be authorized to be appropriated for Safety, Reliability, and Quality Assurance, \$37,800,000 for FY 1998, \$35,600,000 for FY 1999, and \$35,600,000 for FY 2000. For Space Communications Services,

there would be authorized to be appropriated \$209,200,000 for FY 1998, \$177,000,000 for FY 1999, and \$136,000,000 for FY 2000. For Research and Program Management, there would be authorized to be appropriated \$2,051,800,000 for FY 1998, \$2,099,000,000 for FY 1999, and \$2,079,000,000 for FY 2000. Finally for Construction of Facilities, there would be authorized to be appropriated \$134,400,000 for FY 1998, \$165,000,000 for FY 1999, and \$165,000,000 for FY 2000.

This section would reduce the funding level for this account by \$80,000,000 from the President's FY 1998 request with that funding having been reallocated to the Human Space Flight Account for the International Space Station and Russian Program Assurance activities as NASA requested.

Section 104. Inspector General.

This section authorizes the requested \$18,300,000 for NASA's OIG and provides \$20,000,000 for both FY 1999 and FY 2000 authority.

SUBTITLE B—LIMITATIONS AND SPECIAL AUTHORITY

Section 111. Use of Funds for Construction.

This section would authorize NASA to use funds appropriated for purposes other than Construction of Facilities, Research and Program Management (excluding research operations support), and the OIG for the construction of new facilities and modifications to existing facilities, provided that no funds used under this section may be spent for a project whose estimated cost exceeds \$1,000,000 until 30 days have passed after notice has been given to the Senate Commerce, Science, and Transportation and House Science Committees of the nature, location, and estimated cost of the project. Subsection (c) of this section would require that the title of any research facility to an institution of higher education or to a non-profit acquired or constructed through use of those funds would be vested with the federal government unless the Administrator determines otherwise.

Section 112. Availability of Appropriated Amounts.

This section would provide that, to the extent provided in appropriations Acts, appropriations authorized under this bill may remain available without fiscal year limitation.

Section 113. Reprogramming for Construction of Facilities.

This section would authorize the reprogramming of funds appropriated for construction of facilities for the construction, expansion, or modification of facilities at any location should the Administrator determine the reprogramming was dictated by new developments in aeronautics and space activities, and deferral of such action until the next authorization Act would be inconsistent with the national interest in aeronautics and space activities. Any action taken by the Administrator would require 30 days' notice being given to the Senate Commerce, Science, and Transportation and House Science Committees.

Section 114. Consideration by Committees.

This section would require that no appropriated funds may be used for any program deleted by the Congress from requests originally made to the Senate Commerce, Science, and Transportation and House Science Committees, and no funds may be used for any program in excess of the amount actually authorized for that particular program (exclusive of construction of facility projects) unless 30 days have passed after proper notification to those Committees.

Section 115. Use of Funds for Scientific Consultations or Extraordinary Expenses.

This section would authorize the use of funds not to exceed \$35,000 for official reception and representation expenses.

Section 116. Experimental Program to Stimulate Competitive Research.

This section would provide \$10,000,000 for the Experimental Program to Stimulate Competitive Research for each of FY 1998, FY 1999, and FY 2000.

TITLE II—INTERNATIONAL SPACE STATION

Section 201. Findings.

This section highlights 3 findings relating specifically to the International Space Station: (1) the development and operation of the International Space Station is in the best interest of the U.S.; (2) commercial providers may have a role, as yet unspecified, which may lower costs and increase benefits to all partners in the program; and (3) the U.S. should commit to completing the program.

Section 202. Commercialization of Space Station.

This section would require the Administrator to submit a report to the Senate Commerce Committee and the House Science Committee on the opportunities for commercial providers to play a role in the International Space Station. The study would identify and examine the following: (1) opportunities that may include operation, use, servicing, and augmentation; (2) potential cost savings; (3) those activities to which the federal government has a unique or more cost-effective role; (4) policies and initiatives to advance and facilitate the involvement of commercial providers; (5) actions, if any, the Administrator plans to take in FY 1998, 1999, and 2000; and (6) revenues and cost reimbursements from commercial use.

This section also would require the Administrator to provide for an independently-conducted market survey to evaluate and examine potential industry interest in providing commercial goods and services. It is anticipated that NASA would work with the Department of Commerce's Office of Air and Space Commercialization in completing this effort. The Administrator would be required to submit the findings of the study to the Senate Commerce Committee and the House Science Committee within 180 days of enactment of this bill.

Section 203. International Space Station Limitations.

This section would place limitations on the transfer of funds to Russia and would provide for a contingency plan in the event Russia cannot meet its commitment to the International Space Station. Subsection (a) of this section would prohibit any funds or in-kind payments from being transferred to Russia for work on the International Space Station that Russia has pledged to provide at its own expense, excluding the Russian built, US owned Functional Cargo Block. Subsection (b) would require the Administrator to develop and submit to Congress a contingency plan for replacement of any element Russia is responsible for providing.

While the Committee believes that Russia should be given the opportunity to uphold its commitments to the program, those efforts to keep Russia in the program should not interfere with the best interests of developing, launching, and completing construction of the International Space Station in a cost-effective, reliable and safe manner by 2003. Consequently, subsection (b) would direct the Administrator to prepare a detailed contingency plan for the removal or replacement of each element of the International Space Station for which Russia is responsible that lies within the critical path of the Space Station.

Section 204. National Research Council Study.

This section would require the Administrator to enter into a contract with the National Research Council of the National Academy of Sciences for a study evaluating the engineering challenges posed by both extravehicular and space launch requirements of the United States and other foreign countries, the potential need to upgrade or replace equipment or components (including associated launch needs), and the decommissioning and disassembly requirements of the International Space Station. An interim report would be due June 1, 1998, with a final report due September 1, 1998.

Section 205. Cost Limitation for the International Space Station.

Cost limitations of \$21.9 billion and \$17.7 billion have been set for the development of the International Space Station and the associated Shuttle launch costs, respectively. These limitations are to include all costs from the start of the International Space Station in 1994 through the point of assembly complete, currently scheduled for December 2003, including those funds provided as "Russian Program Assurances". The limitation on funding is not to include those operations and research costs that are expected to start in the fiscal year 2003 after assembly of the International Space Station is completed. The Shuttle launch costs within the \$17.7 billion limitation are considered to be those launches in connection with the assembly of the International Space Station including the 7 research utilization flights currently scheduled for the Station, the 9 flights in Phase I to the Russian space station, and the flight associated with the testing of the crew return vehicle. These limitations have been set to motivate efficiency and fiscal responsibility and provide assurances to international partners of the International Space Station of the commitment of the United States Government. It is noted that any cost savings achieved on the Shuttle launch costs during assembly may be used for additional

Shuttle flights as long as those flights are in support of the Space Station assembly.

Subsections (b) and (e) provide flexibility for the proposed limitation on funding. Subsection (b) would provide for automatic increases for such impacts on costs as: economic inflation; compliance with changes in or new Federal, state, or local laws; and any lack of performance or termination of participation of any of the international partners involved in the space station program. The inflation provision would allow for any inflation beyond the annual 3 percent currently assumed in the out year projections.

In the event the cost limitation for either the International Space Station or the associated shuttle launch costs need to be exceeded due to the provisions identified in subsection (b), the Administrator of NASA would be required to provide to the appropriate authorizing and appropriating Committees of the House and Senate the following information: (1) an explanation of the basis for the change; (2) an impact analysis of not receiving the requested funds; and (3) a cost estimate certified by the Administrator of NASA. The Administrator would be required to include in the explanation an identification of which exemptions are the basis for the requested change. An impact analysis would indicate the impact to the program in terms of specific schedule changes if funds are not received, and an overall cost increase certification. The certified cost estimate would be the revised estimate of the total life cycle costs. The Administrator should consider the total life cycle when revising the cost estimate to address concerns that although development costs may be reduced, subsequent costs such as operations and decommissioning may not be reduced but rather may be increased.

Subsection (d) would require the Administrator, as part of each annual budget request, to identify the costs of the Shuttle launches used to support the assembly of the International Space Station. Compliance with subsection (d) would ensure that the amount of funding that applies toward the cost limitation is clear and accurate.

Subsection (e) would allow for the incorporation of new technologies that would improve safety, reliability, maintainability, and availability, or reduce cost after assembly is complete. Included in the availability are allowances for additional Shuttle flights due to on-orbit assembly sequence problems. These problems are contingency responses to on-orbit failures, and/or design improvements and associated Shuttle or ground testing to reduce risks of additional on-orbit failures based on incurred on-orbit problems. Any of the technology exceptions to the cost limitations must include a cost-benefit analysis based on total life cycle costs as part of the written notification required under subsection (c).

The Administrator should, as part of the President's budget request, disclose on an annual basis the amount of funding spent against the cost limitation and the remaining amount available for both the development costs and the Shuttle launch costs.

TITLE III—MISCELLANEOUS PROVISIONS

Section 301. National Aeronautics and Space Act of 1958 Amendments.

Section 301 amends the National Aeronautics and Space Act of 1958 (42 U.S.C. 2451) to require the President to submit to Congress the annual aeronautics and space report in May, rather than January, and in the report to address activities carried out by government agencies on a fiscal year basis, rather than a calendar year basis.

Subsection (c) of this section would clarify section 509 of NASA's 1993 Authorization Act (PL. 102-588) which amended section 303 of the Space Act by including a provision which would authorize the Administrator to protect information generated under an agreement entered into under section 203(c)(5) and (c)(6) of the Space Act. Specifically, the Administrator is authorized to delay the unrestricted public disclosure of technical data in the following circumstances: (1) information which would be considered a trade secret; (2) commercial or financial information which would be privileged or confidential as defined by section 552(b)(4) of title 5, U.S.C.; (3) information which had been obtained from a non-Federal party participating in such an agreement; and (4) information generated in the performance of experimental, developmental, or research activities in which the Administration participates. This provision would protect the data covered by this subsection from disclosure in response to a request submitted under the Freedom of Information Act (FOIA), title 5, U.S.C.

This amendment to the Space Act authorizes NASA to withhold certain technical data which would have been trade secret or commercial or financial information within the meaning of section 552(b)(4) of title 5, U.S.C., the Freedom of Information Act, if the technical data has been obtained from a non-Federal party. This section permits the Agency to withhold technical data whenever it is generated in the performance of experimental, developmental, or research activities or programs conducted by, or funded in whole or in part by, the Administration.

Section 302. Acquisition of Space Science Data.

This section would allow the Administrator, if practicable and cost-effective, to purchase space science data from commercial providers. Subsection (b) would define space science data as including elemental and mineralogical resources of the moon, asteroids, planets, and other moons, and comets as well as earth environmental data and solar storm monitoring. Subsection (c) would reinforce the policy that the federal government would require compliance with applicable safety standards.

Section 303. Acquisition of Earth Science Data.

This section of the bill would authorize the Administrator to purchase commercial Earth science data to meet the requirements of Mission to Planet Earth when the purchase of such data is practicable and cost effective and satisfies scientific requirements. The purchase of data may not exceed an aggregate amount of \$50,000,000.

Section 304. Shuttle Privatization.

This section would require the Administrator to submit a report to the Senate Committee on Commerce, Science, and Transportation and the Committee on Science of the House of Representatives on the feasibility of privatizing the Space Shuttle. Specifically, the Administrator would include in the report the findings and recommendations of its own independent review team (the Kraft Commission), and possible options for resolving the main policy and legal issues that currently prevent full privatization including the safety, certification and other procedures for handling commercial requests which require the use of non-governmental payload specialists and/or pilots from occurring. Such policy and legal issues include: (1) who should own the Shuttle orbiters and Shuttle ground facilities; (2) what payloads should be allowed to be launched or prohibited; (3) which Shuttle functions should continue to be performed by the federal government; and (4) what the estimated cost savings would be. The Committee notes the success to this point of the operation of the Space Shuttle by a single prime contractor and commends NASA on its placement of the program under one prime contractor as a transitional step toward the ultimate goal of full privatization.

Section 305. Launch Voucher Demonstration Program Amendments.

The section would amend section 504 of the Fiscal Year 1993 NASA Act (PL. 102-588) to strike outdated references to various dates and offices.

Section 306. Use of Existing Facilities.

This section would require the Administrator, whenever feasible, to select excess or underutilized buildings, grounds, and facilities from closed military installations or any other agency when considering the purchase, lease, or expansion of a NASA facility.

Subsection (c) of this section would provide NASA the authority to identify and make available to industry underutilized infrastructure at Stennis Space Center that could be used in launch vehicle development activities. The Senate Committee on Commerce, Science, and Transportation and the Committee on Science of the House of Representatives would be notified should NASA's existing authority be insufficient.

Section 307. Authority to Reduce or Suspend Contract Payments Based on Substantial Evidence of Fraud.

This section would amend 10 USC 2307(h)(8) which currently allows the Department of Defense, the Department of the Army, the Department of the Navy, and the Department of the Air Force to suspend or reduce contract payments when there is substantial evidence that the request of a contractor for advance, partial, or progress payment under a contract awarded by that agency is based on fraud to add NASA to the list of agencies that can use this authority.

Section 308. Next Generation Internet.

This section would authorize the Administrator to participate to the maximum extent possible in the Next Generation Internet ini-

tiative which is a part of the High Performance Computing and Communications multi-agency effort.

Section 309. Notice.

This section would require the Administrator to provide notice to the Senate Committee on Commerce, Science, and Transportation and the Committee on Science of the House of Representatives on reprogramming and re-organization matters. Subsection (a) of this section would require that any reprogramming notice be provided to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives. Subsection (b) of this section would require the Administrator to notify the Committees on Commerce, Science and Transportation and Appropriations of the Senate and the Committees on Science and Appropriations of the House of Representatives of any program, project, or activity which is preparing to undergo any major reorganization no later than 30 days prior to such reorganization. A major reorganization is determined as the reassignment of more than 25 percent employees of any program, project, or activity.

Section 310. Sense of the Congress on the Year 2000 Problem.

This section expresses the sense of the Congress that the NASA Administrator should give high priority to correcting the year 2000 problem in all of its computer systems to ensure effective operation in the year 2000 and beyond. NASA needs to assess the risk of the problem upon its systems and develop a plan and a budget to correct the problem for its mission-critical programs. NASA also needs to consider contingency plans, in the event that certain systems are unable to be corrected in time.

Section 311. Unitary Wind Tunnel Plan Act of 1949 Amendments.

This section would amend the Unitary Wind Tunnel Plan Act to update technological terminology, including the terms “transonic, supersonic, and hypersonic”, based on technological progress made over the ensuing decades.

Section 312. Enhancement of Science and Mathematics Programs.

This section expresses the Sense of the Congress that the Administrator should, whenever practicable, donate educationally useful Federal equipment to schools that may be used to enhance the science and mathematics programs of those schools. Public schools may be defined as a public or private educational institution that serves any of the grades of kindergarten through grade 12. The Administrator would be required to submit a report of such donations as part of the President’s annual budget request.

Section 313. Authority to Vest Title.

This section would provide the Administrator with the authority to vest title to personal property in institutions of higher education or in non-profit organizations that enter into cooperative agreements with the Administration. This authority would allow NASA to reduce the total funding necessary to support cooperative agreements by allowing recipients to retain title to property acquired in the course of performance. The vesting of any title in the partici-

pant would be conducted on the U.S. government not incurring any further obligations as well as many other conditions the Administrator considers appropriate.

Section 314. NASA Mid-Range Procurement Test Program.

This section would amend section 5062 of the Federal Acquisition Streamlining Act (FASA).

Section 5062 of the FASA of 1994 granted NASA the authority to initiate a test under the Office of Federal Procurement Policy of alternative notice and publication requirements. In response to this legislation, NASA began to announce upcoming procurement on the Internet, rather than publish synopses in the Commerce Business Daily. The FASA included the following limitations on the test: (1) the test conducted only applies to acquisitions with an estimated annual total obligation of funds of \$500,000 or less; (2) the total life cycle cost of the test could not exceed \$100,000,000; and (3) the test would expire four years after the date of enactment of FASA.

This section eliminates the annual total cost limit and makes the tests applicable to acquisitions with a basic value of \$2,000,000 or less (not more than \$10,000,000 with option). In addition, it increases the dollar limitation applicable to the Test Program from \$100,000,000 to \$500,000,000, and extends the period during which an agency is authorized to use the test for an additional two years.

NASA's success in implementing the Test Program agency-wide has resulted in its reaching the statutory limits. By raising the Test's funding ceiling, this provision would allow NASA to fully realize the Test's total impact. The provision would also allow an additional two years to test these new business concepts because initially only a small number of businesses had Internet access and many businesses have only recently begun to incorporate Internet applications into their operations. The extended test period would provide a more populated base upon which to conduct the Test.

The Committee requests that the NASA Administrator submit to the Senate Committee on Commerce, Science and Transportation and the Committee on Science of the House of Representatives one year after enactment of this bill a report addressing the impact these changes in the provision have had on NASA and on its providers.

Section 315. Space Advertising.

This section would prohibit the launch of any payload containing any material to be used for the purposes of obtrusive space advertising. This section would not apply to nonobtrusive commercial space advertising including advertising on commercial space transportation vehicles, space infrastructure, payloads, space launch facilities, and launch support facilities. Subsection (c) of this section expresses as the Sense of the Congress that the President should negotiate with foreign launching nations agreements prohibiting the use of outer space for obtrusive space advertising purposes.

Section 316. Administration of Commercial Space Centers.

This section would require the Administrator to administer the Commercial Space Centers (CSCs) in a coordinated manner from NASA's headquarters in Washington, D.C., stabilizing NASA in-

vestments and providing better management of commercial research activities. Centralized administration of the CSCs should help stabilize investments and provide for enhanced collaboration which should improve the management of commercial research activities.

Section 317. Insurance; Indemnification; Liability.

This section would authorize the Administrator to provide liability insurance for, or indemnification to, the developer of an experimental aerospace vehicle developed or used in execution of an agreement between the Administration and the developer that was in effect before the date of enactment of this legislation. Accordingly, this section is intended only to apply to NASA's current X-33 and X-34 programs. The primary purpose of this section is to provide these developers with government indemnification for catastrophic third-party loss above the amount of required insurance, while minimizing the likelihood of such accidents occurring by formally requiring NASA to conduct safety oversight of the launch vehicles flown under these programs.

While not amending the National Aeronautics and Space Act of 1958, this section would incorporate section 308 of the Space Act except where otherwise provided. Specifically, except where otherwise provided, a developer, as defined in this section, would be entitled to insurance and indemnification on the same terms and conditions as provided by NASA pursuant to section 308. Paragraph (2) would require the developer to obtain liability insurance or demonstrate financial responsibility in amounts to compensate for the maximum probable loss for claims by a third party and by the U.S. government. The Administrator would be required to determine the amount of insurance based on the requirements set forth in section 70112(a)(3) of title 49, U.S.C., except that the Administrator is authorized to increase the amount after consultation with the Comptroller General and other experts as may be appropriate, and only after publishing a notice of the increase in the Federal Register 180 days prior to the increase going into effect. Finally, paragraph (2) would prohibit the Administrator from providing liability insurance or indemnification unless the Administrator is satisfied that all appropriate safety procedures and practices are being followed.

Also, in order to receive liability insurance or indemnification under this section, a developer must enter into a cross-waiver agreement. The reciprocal waiver agreement required under this section would not do the following: (1) preclude any natural person (or their representatives) who is not a party to the waiver agreement from filing any claims or recovering any damages; (2) absolve any party of liability to any natural person that is not a party to the waiver; and (3) be used as a basis of a claim by the Administration or the developer for indemnification against the other for any damages paid to the natural person (or their representatives) as a result of claims filed by, or on behalf of, such natural person for injury or death sustained as a result of activities connected to the agreement or use of the experimental vehicle.

Subsection (d) defines those terms used throughout this section of the bill.

Subsection (e) would establish the relationship between this provision and other laws. Specifically, this section does not apply to those activities to which 42 U.S.C. 2458b and 49 U.S.C. 70117(g)(1) apply.

Subsection (f) would terminate the provisions of the section on December 31, 2002 although the Administrator may extend the termination date for no more than three additional years if the extension is needed to cover the operation of an experimental vehicle covered by this section. This subsection also would provide that the termination of the authority granted in this section would not terminate the existing agreements that resulted from this authority.

CHANGES IN EXISTING LAW

In the opinion of the Committee, it is necessary to dispense with the requirements of paragraph 12 of Rule XXVI of the Standing Rules of the Senate in order to expedite the business of the Senate.

